

College of Physicians & Surgeons of Columbia University | New York, N.Y. 10032

DEPARTMENT OF PATHOLOGY

630 West 168th Street

May 8, 1995

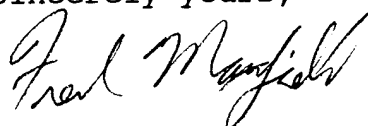
Dr. Constance Oliver
Code 341, Office of Naval Research
800 North Quincy Street
Arlington, VA 22217-5660

Dear Dr. Oliver:

Enclosed is a Final Progress Report on the 1994 Gordon Conference on Lysosomes which was supported by Grant # **N00014-94-1-0514**. As indicated, the meeting was an outstanding scientific gathering, and we are certainly grateful for the support of the Office of Naval Research. It is my understanding that the Gordon Conference office will provide the financial reports under separate cover.

Thank you and best wishes.

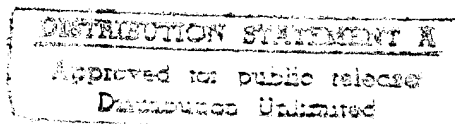
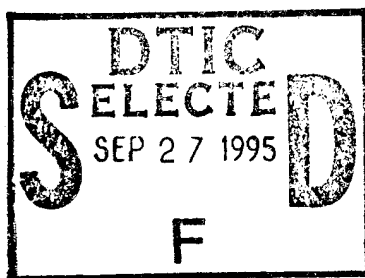
Sincerely yours,



Frederick R. Maxfield, Ph.D.
Professor

cc: Grant Administrator, ONR, Resident Representative N68883

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1994 Gordon Research Conference on Lysosomes

Final Progress Report

Department of the Navy, Grant # N00014-94-1-0514
PI: Alexander Cruickshank

Frederick R. Maxfield, Conference Leader

The Gordon Research Conference on Lysosomes was held at the Proctor Academy, Andover, New Hampshire on July 3-8, 1994. There were 146 participants at the meeting selected from over 200 applicants.

The program included leaders from the U.S. and abroad in the field of membrane trafficking. Topics covered included endocytosis, molecular mechanisms for regulating receptor traffic, the biochemistry of vesicle targeting and fusion, and the application of these areas to specific biological processes such as synaptic vesicle release or antigen presentation. There were 31 regular presentations, and three abstracts were selected for short presentations. In addition there were 90 poster presentations during the week.

The discussion was lively and active. This included formal discussions in the lecture hall as well as informal discussions at meals and during recreation periods. The poster sessions were very well attended and provided a center of interaction at the meeting.

Several of the most recent advances and controversies in the field were presented and discussed at the meeting. These included presentations of the dramatic new results on the biochemistry of vesicle fusion (e.g., Drs. Rothman, Scheller, and DeCamilli), description of a novel compartment for binding antigen to MHC class II molecules (Drs. Geuze and Pierce), a three dimensional view of the trans Golgi network (Dr. Howell), and descriptions of the distribution and trafficking of GPI-anchored proteins (Dr. Anderson, Taraboulos, and Mayor). Studies on genetically simple systems such as yeast were presented by several of the leading laboratories in this field (Drs. Emr, Stevens, and Riezman), and it was clear from the discussions that the homologies with mammalian proteins are becoming increasingly evident.

This was the 16th bi-annual Gordon Conference on Lysosomes. The participants felt that the meeting had upheld the outstanding tradition and reputation of the Conference.

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16th GORDON RESEARCH CONFERENCE ON LYSOSOMES

JULY 3-8, 1994

PROCTOR ACADEMY, ANDOVER, NH

Frederick Maxfield, Chair

Stuart Kornfeld, Vice Chair

Monday July 4, 1994

8:30 a.m. Conference Welcome by Gordon Conferences and Proctor Academy Representatives

Session 1: 9:00 a.m. to 12:15 p.m.

Formation of coated membranes and vesicles

Discussion Leader: James Keen *Clathrin-associated proteins*
(9:00-9:40)

Frances Brodsky *Molecular control of clathrin assembly*
(9:40-10:20)

Coffee Break

Richard Vallee *The role of dynamin in endocytosis*
(10:50-11:30)

Sandra Schmid *Dynamin's role in clathrin-coated vesicle budding*
(11:30-12:10)

Group Photograph

Session 2: 7:30 p.m. to 10:10 p.m.

Membrane traffic in unicellular organisms

Discussion Leader: Scott Emr *Essential role for PI3 Kinase in lysosomal protein sorting*
(7:30-8:10)

Tom Stevens *Sorting to the vacuole*
(8:10-8:50)

Town Fireworks Display

Howard Riezman *Molecular requirements for internalization in yeast*
(9:30-10:10)

Tuesday, July 5, 1994

Session 3: 9:00 a.m. - 12:15 p.m.

Sorting and vesicle budding in the biosynthetic pathway

Discussion Leader: Stuart Kornfeld *Assembly of clathrin coated pits*
(9:00-9:40)

Suzanne Pfeffer
(9:40-10:20)

*Rab proteins in transport from
endosomes to the TGN*

Coffee Break

Kathryn Howell
(10:50-11:30)

*Exocytic vesicle budding in the
Golgi apparatus*

John Bergeron
(11:30-12:10)

Calnexin and ER protein sorting

Session 4: 7:30 p.m. to 10:00 p.m.

Regulated and constitutive endocytic sorting

Discussion Leader: Timothy McGraw
(7:30-8:10)

*Cytoplasmic sorting signals and
receptor recycling*

Pietro DeCamilli
(8:10-8:50)

Membrane traffic at the synapse

Sam Cushman (NIH)
(8:50-9:30)

*Cell biology of insulin action
on glucose transport*

Wednesday, July 6, 1994

Session 5: 9:00 a.m. to 12:15 p.m.

Molecular control of vesicle targeting and fusion

Discussion Leader: James Rothman
(9:00-9:40)

*Biochemical basis for vesicle
recognition and fusion*

Richard Scheller
(9:40-10:20)

*Molecular mechanisms of
synaptic transmission*

Coffee Break

Jean Gruenberg
(10:50-11:30)

*Mechanisms regulating interactions
between endosomes*

Ira Mellman
(11:30-12:10)

Novel endosomes in antigen presentation

Session 6: 7:30 p.m. to 10:00 p.m.

Membrane traffic in polarized cells

Discussion Leader: Ann Hubbard
(7:30-8:10)

Membrane traffic in hepatocytes

Enrique Rodriguez-Boulan
(8:10-8:50)

Sorting in the TGN and endosomes

Keith Mostov
(8:50-9:30)

Transcytosis and recycling

Dan Cutler
(9:30-9:50)

*Membrane protein trafficking through
the common apical endosome
compartment of polarized Caco-2 cells*

Thursday, July 7, 1994

Session 7: 9:00 a.m. to 12:15 p.m.

Endocytosis and processing of proteins and infectious agents

Discussion Leader: Marian Neutra
(9:00-9:40)

*Transport of antigens and
micro-organisms in intestinal cells*

Susan Pierce
(9:40-10:20)

Antigen processing compartments

Coffee Break

Steve Younkin
(10:50-11:30)

*Endocytic processing of the Alzheimer
 β -amyloid precursor protein*

Albert Taraboulos
(11:30-12:10)

Processing of prions

Session 8: 7:30 p.m. to 10:00 p.m.

Discussion Leader: Fred Maxfield

Remembrance of Eric Holtzman

Alex Novikoff Memorial Lecture

Hans Geuze
(7:45-8:45)

MHC Class II Compartments

Selected presentations

Silvia Corvera
(8:45-9:05)

*Disruption of PDGF receptor trafficking
by mutation of its PI-3 kinase binding domain*

Christoph Peters
(9:05-9:25)

*Cathepsin D deficient mice: characterization
of the phenotype*

Willem Stoorvogel
(9:25-9:45)

*Exit from endosomes mediated by clathrin-
coated vesicles*

Friday, July 8, 1994

Session 9: 8:30 a.m. to noon.

Endocytic processes, signalling and membrane transport

Discussion Leader: Richard Anderson *Signalling and caveolae*
(8:30-9:10)

Joel Swanson
(9:10-9:50)

Endocytic processes in macrophages

Coffee Break

Dan Clemens
(10:00-10:40)

*Characterization of Mycobacterium
tuberculosis and Legionella
pneumophila phagosomes*

Satyajit Mayor
(10:40-11:20)

Trafficking of lipids and GPI-proteins

Financial support for this conference has been provided by:
Gordon Research Conferences, NIH (NIAID, NIDDK, NIGMS), Office of Naval
Research, Athena Neurosciences, Merck, and Pfizer.